UNIVERSITI TEKNOLOGI MARA

MACULAR THICKNESS BY AGE AND GENDER IN HEALTHY MALAY USING SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY (SD-OCT)

NURUL-SYAFIQAH CHE MUHAMMAD NOR

Project submitted in fulfilment of the requirements for the degree of

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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Name of Student	Nurul-Syafiqah Che Muhammad Nor
Student ID No.	2011228724
Programme	Bachelor of Optometry (Hons.)
Thesis Title	Macular Thickness by Age and Gender in Healthy Malay using Spectral Domain Optical Coherence Tomography (SD-OCT)
Signature of Student	…….
Date	13 July 2015

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ABSTRACT

Macular edema is a common cause of visual impairment, and the degree of macular thickening is significantly correlated with visual acuity. Traditional investigations for evaluating macular edema with fundus photography, slit lamp biomicroscopy or fluorescein angiography (FA) provide only qualitative information, which is relatively insensitive to subtle changes in macular thickness. Therefore, measurements of macular retinal thickness with optical coherence tomography (OCT) is an established method for diagnosing and monitoring macular edema and evaluating the efficacy of medical and surgical treatments for macular disease. Macular thickness has significant differences amongst subjects of different race, gender and age. Measuring the macular thickness in healthy eyes in our local population using SD-OCT has clinical importance in practice. Therefore, a study on macular thickness based on nine ETDRS areas by age and gender in healthy Malay using spectral domain optical coherence tomography (SD-OCT) is conducted so that a normative value on macular thickness can be produced. A cross-sectional study design had been performed in UiTM Puncak Alam by recruiting a total of 47 candidates with 24 of them were females and other remaining 23 was males. The mean (SD) of central macular thickness for total candidates in the study was 230.16 ± 18.84 μm. While the mean (SD) of central macular thickness for male 237.20 ± 20.75 μm and female was 223.41 ± 14.18 μm, respectively. So, result of the study showed that there was no correlation between macular thickness and age. While for gender, male is proved to have a thicker macular thickness compared to female in all nine ETDRS region, which was in agreement with previous studies.